

described embodiments will become apparent to those of ordinary skill in the art upon reading the foregoing description. The inventor expects skilled artisans to employ such variations as appropriate, and the inventors intend for the invention to be practiced otherwise than specifically described herein. Accordingly, this invention includes all modifications and equivalents of the subject matter recited in the claims appended hereto as permitted by applicable law. Moreover, any combination of the above-described elements in all possible variations thereof is encompassed by the invention unless otherwise indicated herein or otherwise clearly contradicted by context.

Furthermore, numerous references have been made to patents and printed publications throughout this specification. Each of the above-cited references and printed publications are individually incorporated herein by reference in their entirety.

Specific embodiments disclosed herein may be further limited in the claims using consisting of or and consisting essentially of language. When used in the claims, whether as filed or added per amendment, the transition term "consisting of" excludes any element, step, or ingredient not specified in the claims. The transition term "consisting essentially of" limits the scope of a claim to the specified materials or steps and those that do not materially affect the basic and novel characteristic(s). Embodiments of the invention so claimed are inherently or expressly described and enabled herein.

In closing, it is to be understood that the embodiments of the invention disclosed herein are illustrative of the principles of the present invention. Other modifications that may be employed are within the scope of the invention. Thus, by way of example, but not of limitation, alternative configurations of the present invention may be utilized in accordance with the teachings herein. Accordingly, the present invention is not limited to that precisely as shown and described.

What is claimed is:

1. A dermal filler comprising:  
hyaluronic acid (HA) crosslinked with 1,4 butanediol diglycidyl ether (BDDE), and  
lidocaine;  
wherein the lidocaine is freely released in vivo;  
wherein the dermal filler is sterile; and  
wherein the dermal filler is made by a process comprising:  
crosslinking HA with BDDE to obtain a crosslinked HA composition;  
adding lidocaine to the crosslinked HA composition;  
and  
heat sterilizing the crosslinked HA composition with added lidocaine to obtain a sterile dermal filler.
2. The dermal filler of claim 1, wherein the process further comprises adjusting the pH of the crosslinked HA composition to obtain an alkaline crosslinked HA composition.
3. The dermal filler of claim 2, wherein the pH adjustment is performed before adding the lidocaine.
4. The dermal filler of claim 2, wherein the pH adjustment comprises adjusting the pH to about 7.5 to about 8.0.
5. The dermal filler of claim 2, wherein the pH adjustment comprises adjusting the pH to above about 7.5.
6. The dermal filler of claim 1, wherein the adding the lidocaine comprises adding a solution containing lidocaine HCl.
7. The dermal filler of claim 1, wherein the process further comprises passing the crosslinked HA composition through a sieve before adding the lidocaine.

8. The dermal filler of claim 7, wherein the process further comprises adding free HA gel to the crosslinked HA composition after the crosslinked HA composition has been passed through the sieve.

9. The dermal filler of claim 7, wherein the crosslinked HA composition, after being passed through the sieve, comprises particles of crosslinked HA having an average particle size of at least about 200  $\mu\text{m}$ .

10. The dermal filler of claim 7, wherein the crosslinked HA composition, after being passed through the sieve, comprises particles of crosslinked HA having an average particle size of at least about 250  $\mu\text{m}$ .

11. The dermal filler of claim 7, wherein the crosslinked HA composition, after being passed through the sieve, comprises particles of crosslinked HA having an average particle size of less than about 200  $\mu\text{m}$ .

12. The dermal filler of claim 1, wherein the process further comprises homogenizing the crosslinked HA composition before adding the lidocaine.

13. The dermal filler of claim 1, wherein the dermal filler has a lidocaine concentration of between about 0.1% and about 5.0% w/w.

14. The dermal filler of claim 1, wherein the dermal filler has a HA concentration between about 20 mg/mL and about 30 mg/mL.

15. The dermal filler of claim 1, having a lidocaine concentration of 0.3% w/w and a HA concentration between about 20 mg/mL and about 30 mg/mL.

16. A dermal filler composition comprising:  
a composition comprising hyaluronic acid (HA) crosslinked with 1,4 butanediol diglycidyl ether (BDDE), wherein the HA is not crosslinked to a non-HA biopolymer, and lidocaine;  
wherein the dermal filler is made by a process comprising:  
crosslinking HA with BDDE to obtain a crosslinked HA;  
adding lidocaine to the crosslinked HA; and  
heat sterilizing the crosslinked HA with added lidocaine to obtain a sterile dermal filler.

17. The dermal filler of claim 16, wherein the process further comprises adjusting the pH of the crosslinked HA to obtain an alkaline crosslinked HA.

18. The dermal filler of claim 17, wherein the adjusting the pH is performed before adding the lidocaine.

19. The dermal filler of claim 16, wherein adding the lidocaine comprises adding a solution containing lidocaine HCl.

20. The dermal filler of claim 16, wherein the crosslinked HA comprises particles of crosslinked HA having an average particle size of at least about 200  $\mu\text{m}$ .

21. The dermal filler of claim 16, wherein the crosslinked HA comprises particles of crosslinked HA having an average particle size of less than about 200  $\mu\text{m}$ .

22. The dermal filler of claim 16, wherein the dermal filler has a lidocaine concentration of between about 0.1% and about 5.0% w/w.

23. The dermal filler of claim 16, wherein the dermal filler has a HA concentration of between about 20 mg/mL and about 30 mg/mL.

24. A dermal filler composition comprising:  
a hyaluronic acid (HA) crosslinked with 1,4 butanediol diglycidyl ether (BDDE), and about 0.3% lidocaine by weight, wherein the lidocaine is freely released in vivo and wherein the composition is sterile;  
wherein the composition is made by a process comprising: